

**WHAT IS CLAIMED IS:**

1. A method of controlling communication of a packet of information from a transmitting packet communication device to a recipient packet communication device, the packet having a plurality of fields including a predetermined address field for carrying address information indicative of an intended recipient of the packet, comprising:

a transmitting packet communication device providing in a further field of the packet other than the predetermined address field address information indicative of a recipient packet communication device for which the packet is intended;

the transmitting packet communication device providing in the predetermined address field of the packet first information which indicates that the further field of the packet contains the address information; and

the transmitting packet communication device transmitting the packet on a communication link.

2. The method of Claim 1, including the intended recipient device receiving the packet and detecting the first information in the predetermined address field and retrieving the address information from the further field in response to detection of the first information.

3. The method of Claim 1, wherein said step of providing first information includes the transmitting device providing a predetermined code in the predetermined address field.

4. The method of Claim 1, wherein the further field is a packet type field for normally carrying information indicative of the packet type.

5. The method of Claim 1, wherein the transmitting device and the intended recipient device are wireless communication devices.

6. The method of Claim 5, wherein the transmitting device is a Bluetooth master device and the intended recipient device is a Bluetooth slave device.

7. The method of Claim 1, including the transmitting device selectively inserting into the packet at a predetermined position therein second information that is normally carried by the further field but is displaced from the further field by the address information, the transmitting device providing in the further field third information which indicates that the second information has been inserted into the packet.

8. The method of Claim 7, including the transmitting device selectively inserting into the packet at said predetermined position fourth information for use by a further packet communication device other than the intended recipient device.

9. The method of Claim 8, wherein the fourth information includes a request for the further device to retransmit a packet to the transmitting device.

10. The method of Claim 9, including the further device receiving the packet and determining that the address information in the further field does not correspond to the further device, the further device thereafter determining from the third information that the fourth information is included in the received packet, and the further device determining whether the fourth information includes a request for the further device to retransmit a packet to the transmitting device.

11. A method of controlling communication of a packet from a transmitting packet communication device to a recipient packet communication device, the packet including a predetermined address field for carrying address information indicative of an intended recipient of the packet, comprising:

providing identification information which identifies a recipient packet communication device for which the packet is intended;

responsive to the identification information, a transmitting packet device producing address information indicative of the intended recipient device and extending the address field of the packet to accommodate the address information and providing the address information in the extended address field; and

the transmitting device transmitting the packet on a communication link.

12. The method of Claim 11, including the intended recipient device receiving the packet and using error check information from the received packet to determine whether the address field of the received packet is an extended address field and thereafter decoding the address information from the address field of the received packet.

13. The method of Claim 12, wherein said using step includes the intended recipient device performing an error check on the received packet under an assumption that the received packet does not contain an extended address field, and said using step further including the intended recipient device performing an error check on the received packet under an assumption that the received packet does contain an extended address field.

14. The method of Claim 11, wherein the transmitting device and the intended recipient device are wireless packet communication devices.

15. The method of Claim 14, wherein the transmitting device is a Bluetooth master device and the intended recipient device is a Bluetooth slave device.

16. A packet communication apparatus for communicating a packet of information to a further packet communication apparatus, the packet having a plurality of fields including a predetermined address field for carrying address information indicative of an intended recipient of the packet, comprising:

a packet processor for providing in a further field of the packet other than the predetermined address field address information indicative of the further packet communication apparatus, said packet processor further for providing in the predetermined address field of the packet first information which indicates that said further field of the packet contains said address information; and

a communication interface coupled to said packet processor for transmitting the packet on a communication link.

17. The apparatus of Claim 16, wherein said communication interface is a wireless communication interface and the communication link includes a wireless communication link.

18. The apparatus of Claim 17, provided as a Bluetooth master device.

19. The apparatus of Claim 17, including a controller coupled to said packet processor for selectively directing said packet processor to insert into the packet at a predetermined position therein second information that is normally carried by said further field but is displaced from said further field by said address information, said packet processor responsive to said controller for providing in said further field third information which indicates that said second information has been inserted into the packet.

20. The apparatus of Claim 19, wherein said controller is further for selectively directing said packet processor to insert into the packet at said predetermined position fourth information for use by a third packet communication apparatus.

21. The apparatus of Claim 20, wherein said fourth information includes a request  
5 for the third apparatus to retransmit a packet to said communication interface.

22. The apparatus of Claim 16, wherein said further field is a packet type field for normally carrying information indicative of the packet type.

23. A packet communication apparatus for receiving a packet of information from a further packet communication apparatus, the packet having a plurality of fields including a predetermined address field for carrying address information indicative of an intended  
10 recipient of the packet, comprising:

a communication interface for receiving the packet via a communication link; and  
an address decoder coupled to said communication interface for detecting in said predetermined address field information which indicates that a further field of the packet  
15 contains address information from which the intended recipient of the packet can be determined.

24. The apparatus of Claim 23, wherein said communication interface is a wireless communication interface and the communication link includes a wireless communication link.

25. The apparatus of Claim 24, provided as a Bluetooth slave device.

5 26. A packet communication apparatus for communicating a packet of information to a further packet communication apparatus, the packet including a predetermined address field for carrying address information indicative of an intended recipient of the packet, comprising:

10 a packet processor for selectively extending said address field of the packet to accommodate said address information, said packet processor further for providing said address information in said extended address field; and

a communication interface coupled to said packet processor for transmitting the packet on a communication link.

15 27. The apparatus of Claim 26, wherein said communication interface is a wireless communication interface and the communication link includes a wireless communication link.

28. The apparatus of Claim 27, provided as a Bluetooth master device.

29. A packet communication apparatus for receiving a packet of information from a further packet communication apparatus, the packet including a predetermined address field for carrying address information indicative of an intended recipient of the packet, comprising:

5 a communication interface for receiving the packet from a communication link; and  
a packet processor coupled to said communication interface for using error check information from the received packet to determine whether the address field of the received packet is an extended length address field.

30. The apparatus of Claim 29, wherein said packet processor is operable for performing an error check on the received packet under an assumption that the received packet does not contain an extended length address field, and is further operable for performing an error check on the received packet under an assumption that the received packet does contain an extended length address field.

31. The apparatus of Claim 29, wherein said communication interface is a  
15 wireless communication interface and the communication link includes a wireless communication link.

32. The apparatus of Claim 31, provided as a Bluetooth slave device.